



Constraints of Milk Production and Milk Marketing in India

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Abstract: Operation Flood and dairy co-operatives emerged in India as the largest rural employment scheme, enabling the modernization of the dairy sector to a level from where it can take off to meet not only the country's demand for milk and milk products but can also exploit global market opportunities. This study reviews the existing status of milk marketing and dairy co-operatives in India and provides recommendations to meet future challenges. The results of the study indicate that 80 percent of the milk produced by the rural producer is handled by an unorganized sector and the remaining 20 percent is handled by an organized sector. It is found that the dairy co-operatives play a vital role in alleviating rural poverty by augmenting rural milk production and marketing. Involvement of intermediaries; lack of bargaining power by the producers; and lack of infrastructure facilities for collection, storage, transportation, and processing are the major constraints which affect the prices received by producers in milk marketing. Milk quality, product development, infrastructure support development, and global marketing are found to be future challenges of India's milk marketing.

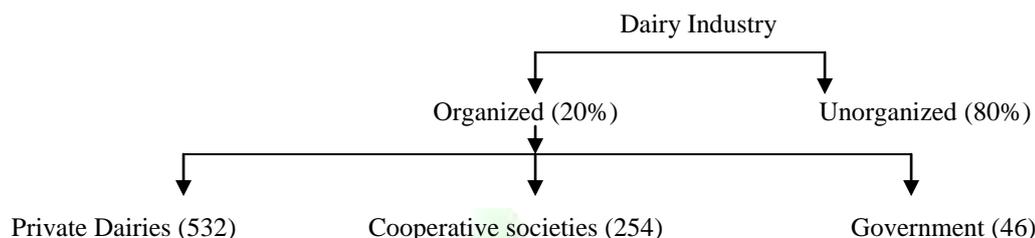
I. INTRODUCTION

The dairy sub-sector occupies an important place in the agricultural economy of India as milk is the second largest agricultural commodity in contributing to GNP, next only to rice. Also important is the fact that in 1998 India surpassed the US to become the largest single milk producing country in the world. In 2005, Indian milk production represented 14.6 per cent of the world milk production, exceeding the combined production of the top five dairy countries in the EU-25 (Babcock, 2006). But, despite India being the largest milk producing country in the world and as compared with 1998-99 figures, its milk production having been increased by about 40 per cent in 2007-08, the per capita availability of milk is only 280 g/day, which is much below the world average figure. The per capita availability of milk is even different across Indian states; as for example, in West Bengal it is 128 g/day, which is much lower than all-India figure (NDDDB, 2007-08). Despite impressive growth in milk production during the past three decades, productivity of dairy animals continues to remain very low and milk marketing system is primitive. Currently, more than 80 per cent of the milk produced in the country is marketed by the unorganized sector (private organizations) and less than 20 per cent is marketed by the organized sector (government or cooperative societies). But, both organized and unorganized sectors in the dairy industry of the country face a lot of constraints — infrastructural, technical, socio-psychological, economic and marketing — with high or low severity to expansion of milk production in the country. The present study has identified the constraints that cooperative and non-cooperative dairy farms face in expansion of milk production.

II. INDIAN DAIRY KEY FACTS

- ✓ Ranks 1st in world milk production (115 million metric tones)
- ✓ Value of milk output from livestock (at current price) is around INR 2400 Billion
- ✓ Value of dairy products market is around INR 4000 Billion
- ✓ Ice cream industry is around INR 25 Billion
- ✓ Milk production in India has come a long way over the years from a low volume of 17 MT in 1951 to around 115 MT in 2010; 70% of milk is produced by marginal farmers.
- ✓ 65 per cent of the milk is sold in "loose" form
- ✓ Only 5 per cent of the milk is sold through retail chains
- ✓ 70 per cent is delivered to the homes by 'milk agents'
- ✓ Carton milk or packaged milk has been growing at 24 per cent annually
- ✓ Most branded FMCG companies are keen on launching flavoured dairy products whose market size is pegged at US\$ 166 million

III. THE STRUCTURE OF THE INDIAN DAIRY INDUSTRY (SOURCE: TECHNOPAK ANALYSIS, 2010)



IV. FACTOR CONDITIONS

The **quality of animals** is critical in determining its milk productivity and hence overall production. Currently, low productivity per animal hinders development of the dairy sector. Despite being the world’s largest milk producer, India’s productivity per animal is very low, at 987 kg per lactation, compared with the global average of 2 038 kg per lactation.

The **low productivity** is a result of ineffective cattle and buffalo breeding programmers, limited extension and management on dairy enterprise development, traditional feeding practices that are not based on scientific feeding methods, and limited availability and affordability of quality feed and fodder. In addition, the limited supply of quality animals is exacerbated by policies limiting interstate movement of animals. Indigenous cattle and buffalo make up 45 percent of the country’s total milch population, in contrast to the cross-bred cows at 10 percent.

Despite these initiatives, **the availability of services** remains limited. Currently, AI services cover only 15 percent of the breed able animals. Cattle and buffalo breeding programs have been initiated but have not had the desired impact because of a lack of coordination between the different state departments. And extension activities in dairy management are woefully lacking. Farmers have not been able to take advantage of the potential of their animals because they lack information on feeding and management practices. Extension, especially for women involved in livestock rearing, would enhance dairy production considerably.

Crop residues are the single largest bulk **feed material** available to farmers for feeding livestock, specifically ruminants. They include coarse straws, fine straws, leguminous straws, pulses straws and sugarcane tops. Fodder from common property resources is another major source of feed for animals. But lack of efficient management of common property resources is a major constraint in availability of these resources for fodder. The area under cultivated fodder production is limited only to 5 percent of the total cultivable land. In the states of Haryana, Punjab, Gujarat and some parts of Rajasthan, land use for green fodder production is estimated at 10 percent or more. There is a need for restructuring the land use strategy to elevate the overall proportion of cultivable lands for fodder production.

Scarcity of fodder resources is likely to be a major constraint in the development of the dairy sector unless adequate measures are undertaken to augment them. Another important issue regarding feed is the lack of regulations to ensure quality. In the absence of a coherent policy, all kinds of substandard feeds are available in the market.

Vaccines/medicines: The Government and the private sector are involved in producing medicines and vaccines. However, quality control is a critical issue. An important policy question is whether the government should be involved in the manufacturing and production of vaccines or should it instead take on a regulatory role to ensure quality and availability at a reasonable price.

Table-1
Showing the Factor Conditions

Herd	
Herd inventory	Very large number of indigenous animals with low productivity and a small portion of cross-breeds Organization and managerial
Breed	Lack of policy focus on strengthening indigenous breeds Very poor awareness of quality feed, which hinders Productivity
Feed	Farmers not interested in quality feed because of the low price of milk
	Increasing feed costs
Veterinary medicine	Availability is not an issue
Veterinary medicine costs	Duplicate or cheap medicines
Human capacity	
Farmer technical capacity	Knowledge and new techniques are not accessible
Support services technical	Accessibility to good quality veterinary services is an issue in many



capacity	parts of the country
Organization and managerial capacity	Organizational and managerial capacity of farmer cooperatives is very poor
Entrepreneurial capacity	Entrepreneurial capacity is hindered by a low capacity to take risks
Credit or finance market	
Formal credit mechanisms	Access to formal credit mechanisms is very poor
Informal credit mechanisms	Accessible but at very high interest
External economies	
Transmission of learning	Very poor extension support services, leading to very poor knowledge transfer
Social capital and trust	Strong social capital and trust in the villages, which can sustain dairy farmer organizations if properly managed

V. CONSTRAINTS OPPORTUNITIES AND CHALLENGES OF INDIAN DAIRY INDUSTRY

1. Issues and Challenges at the Small holder Level

The entire dairy Industry in India has its base in the small holders and marginal farmers. These prime stakeholders of the entire value chain of milk are deprived of minimum resources of land, labor, capital etc. The other constraints at the grass root levels are:

- ✓ **Inadequate feeding of animals:** With burgeoning human population, there is an increasing pressure on the land resources for cultivation of food crops and fodder crops are not preferred. This apart the small holders are not able to feed the animals with balanced diet of concentrates and roughages due to lack of financial support.
- ✓ **More disease incidence:** Small holders who are not members of cooperative societies often get deprived of good animal health care facilities in terms of routine vaccination and prophylactic disease prevention measures. Financial constraints generally inhibit these farmers' access to the organized veterinary services and they still rely on the quacks and conventional treatment methods.
- ✓ **Lack of chilling capacities:** The farmers having high yielding varieties of the cattle and buffalo have a different issue all together. These farmers milk their animals 2-3 times in the day and every time they have to carry this milk to the distant collection centers where there is a cooling facility or else the milk goes waste if there is delay.
- ✓ **Exploitation of farmers:** Those farmers who do not conform to any of the cooperative societies get exploited at the hands of the contractors of the private dairies with regard to payment of exact dues as per the fat content of the milk.
- ✓ **High production costs:** Compared to the amount of efforts and maintenance costs being involved in the production of milk, the farmers do not get remunerative prices due to low market prices and lack of elasticity in the prices of milk.
- ✓ **Delayed payment of dues:** The farmers are not only paid less according to the quality of milk but also their payment is delayed from time to time. This comes in line with the sick and non-performing milk cooperative unions, which pass on the perils of mismanagement and marketing losses to these poor farmers.

2. Issues and Challenges at Collection Level

- ✓ **Milk base mainly consisting of small holders:** The majority of dairy farmers being small and marginal the average holdings of animal come to around 5 animals per farmer. This brings in the logistical challenge of collecting milk from each farmer twice on a daily basis. The farmer usually loses much time waiting in the queue to deposit their milk at the collection centers thus resulting in loss of networking man days.
- ✓ **Involvement of too many intermediaries:** Keeping in view the large no of intermediaries involved in the milk collection procedures the milk loses its quality in the process. This leads to increased microbial contamination and fluctuation in the volume of the milk before reaching the collection centers and bulk coolers.
- ✓ **Gaps in information:** In this era of information technology, the dairy sector is unorganized with respect to the support information. There is no record of the milk, which is being collected from different milk producers at the collection centers. If anything goes wrong in terms of the discovery of zoonotic disease organisms at a later stage there is no scope of backtracking to the farmer. Though there has been a success in this regard with the e-governance project being implemented in AMUL with the help of IIM Ahmadabad, it has not been replicated by all the cooperative societies in the sector.
- ✓ **Lack of Infrastructure:** When there is a thrust on increasing the milk production, then there should be ample amount of facilities to handle it. There is a dearth of required infrastructure of chilling plants and bulk coolers due to which so much of milk goes waste due to spoilage.
- ✓ **Manipulation of the quality of milk by the farmers:** The farmers not being able to get fair and remunerative prices for the milk often tend to give adulterated milk at the collection centers. They often add additives to forge the fat content of the milk and get better price for the lot. Addition of vegetable fat, animal fat, starch, etc. has been quite frequent among the farmers to alter the fat and solid content of the milk.



3. Issues and Challenges at the Processing Level

- ✓ **Absence quality standards:** There is absence of stringent quality standards like HACCP, Codex etc. in most of the cooperative milk unions, which bars Indian dairy products for exports into the foreign market.
- ✓ **Adulteration and Food safety:** The most important aspect of milk processing is its purity and wholesomeness. There has been an instance of cheap substitution of skimmed milk powder with below standard substances, which is hazardous to health. Even though there are certain Food safety Acts but still every other day we get to know about various tankers of spurious milk being apprehended.
- ✓ **Lack of trained and skilled workers:** There is lack of trained and skilled workers who can handle the milk processing operations hygienically and safely.

4. Issues and challenges at the Storage and Logistics Level

- ✓ **Lack of cold storage facilities:** Milk being a highly perishable product requires be processing or cooling as soon as possible after milking, to prevent spoilage and contamination. However to ensure this there is a need of refrigerated milk silos for storage which are not present at the village levels.
- ✓ **Gap in the cold chain and transport facilities:** There are long distances to be covered to reach bulk milk coolers from the collection center. There is a shortage of refrigerated vans and insulated tankers for ferrying the chilled milk to the processing plants

5. Issues and challenges for Marketing

- ✓ **Majority of the Market is still unorganized:** The milk market in India still faces the challenge of getting organized. The unorganized market makes it competes with the organized market in relation to prices.
- ✓ **Acceptability of the Consumer base:** A large fraction of the consumer base in India is yet to accept the clean and supple milk from organized dairies due higher costs. The mindset of buying fresh whole milk from the milkman is still prevalent in the Indian consumers.
- ✓ **Less penetration to the rural Market:** Most of the milk produced by the dairy co-operatives goes to the urban market. The rural consumers are still dependent on the informal and unorganized market channels.
- ✓ **Lack of transparent milk pricing System:** There is no specific minimum support price of the milk in the system, which makes it unremunerated for the farmers.

VI. FUTURE CHALLENGES

“Failure is never final, and success never ending.” Former Chairman Kurien bears out this statement perfectly to describe the current status of the dairy industry in India. The Indian dairy industry needs to focus simultaneously on the four-fold challenge of quality, product development, infrastructure-support development, and global marketing. Equally urgent is the need for strategic alliances with some of the leading dairy companies in the world for technical collaboration and marketing tie-ups. Raw-milk handling needs to be upgraded in terms of physico-chemical and microbiological attributes of the milk collected. Better operational efficiencies are needed to improve yield, reduce waste, minimize fat and protein losses during processing, control production costs, save energy, and extend shelf life. The adoption of Good Manufacturing Practices (GMP) would help manufacture milk products that conform to international standards and thus make exports competitive.

Restructuring Departments of Animal Husbandry in states, reorienting their mandate from curative to preventive veterinary care, moving delivery delivery of livestock services away from government, progressive privatization of the services, a nation-wide program for prevention and control of animal epidemics, and creation of disease-free zones will all reduce avoidable production losses, investment risks, and the yield gap; improve output; and will facilitate India's entry into global product markets, improving the quality and viability of the entire Indian dairy industry. Restructuring the governments' legal and regulatory framework, thus liberating the cooperative movement, will enable milk producers to extensively adopt the proven Anand Pattern producers' cooperative model to manage their assets and business interests. This will help them vertically integrate production, processing, value additions, and marketing of milk and milk products in domestic as well as global markets, converting India's comparative advantages in dairy production into globally competitive advantages.

VII. CONCLUSION

The major constraint in milk marketing is the involvement of the unorganized sector. Changing the dairy-cooperative laws and regulations can reduce the unorganized sector's role in milk marketing. Strengthening the infrastructure for milk collection, transportation, processing, packaging, pricing, and marketing through dairy co-operatives can also change the minds of the milk producers. Producers are not receiving a remunerative price for their produce because of the presence of middlemen in milk marketing. By reducing the number of middlemen between producer and consumer, the consumers' share to the producer can be increased. In other words, bridging the gap between the producer and the consumer can increase the producer's share. Producers' bargaining power and the lack of proper infrastructure for transportation, distribution, and storage are other constraints which



make milk procurement difficult. Furthermore, its future challenges in milk marketing are mainly concerned with quality, product development, infrastructure-support development, and global marketing. We can overcome these challenges by strengthening the dairy co-operatives.

REFERENCES

1. Meena M.S., Prasad, M. and Singh, Rajbir (2009) Constraints perceived by rural agro-processors in adopting modern post-harvest technologies, *Indian Research Journal of Extension Education*, 9 (1): 1-5.
2. Chaudhary, H. and Panwar, J.S. (2004) Dairy cooperative societies: Constraints of milk producer members, *The Indian Journal of Social Work*, 65(2): 263-273.
3. Manoharan, R. Selvakumar, K. N. Pandian, A. S. S. 2003. Constraints in milk production faced by the farmers in Pondicherry Union Territory, *Indian J. Anim. Res.* 37(1):68-70.
4. www.nddb.org
5. www.amul.com
6. www.ask.com
7. www.dairyindia.org

